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OM nucleic - nucleic search, using sw model

Run on: June 27, 2003, 02:18:18 ; Search time 60 Seconds
(without alignments)
5545.738 Million cell updates/sec

Title: US-09-508-710-1
Perfect score: 1085
Sequence: 1 caaacacagcacagatcg.....taaaaaaaaaaaaaaaaaa 1085

Scoring table: IDENTITY_NUC

Gapop 10.0 , Gapext 1.0

Searched: 441362 seqs, 153338381 residues

Total number of hits satisfying chosen parameters: 882724

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Issued Patents NA.*

- 1: /cgn2_6/ptodata/1/ina/5A_COMB.seq.*
- 2: /cgn2_6/ptodata/1/ina/5B_COMB.seq.*
- 3: /cgn2_6/ptodata/1/ina/6A_COMB.seq.*
- 4: /cgn2_6/ptodata/1/ina/6B_COMB.seq.*
- 5: /cgn2_6/ptodata/1/ina/PCTUS_COMB.seq.*
- 6: /cgn2_6/ptodata/1/ina/backfiles1.seq.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	450.4	41.5	996	2	US-08-924-759-21
2	450.4	41.5	996	3	US-09-248-335-21
3	444.8	41.0	948	2	US-08-924-759-11
4	444.8	41.0	948	3	US-09-248-335-11
5	368.4	34.0	1228	3	US-09-248-335-43
6	203.2	18.7	773	3	US-09-248-335-39
7	202.6	18.7	902	3	US-08-924-747-5
8	202.6	18.7	902	4	US-09-247-373B-5
9	202.6	18.7	902	4	US-09-296-715-5
10	197	18.2	935	3	US-08-924-747-19
11	197	18.2	935	4	US-09-247-373B-19
12	197	18.2	935	4	US-09-296-715-19
13	196.2	18.1	971	3	US-09-248-335-65
14	195	18.0	911	2	US-08-924-759-9
15	195	18.0	911	3	US-09-248-335-9
16	194.8	18.0	1100	3	US-09-248-335-53
17	193.2	17.8	1068	3	US-09-248-335-73
18	186.2	17.2	967	3	US-09-248-335-51
19	183.8	16.9	895	2	US-08-924-759-23
20	183.8	16.9	895	3	US-09-248-335-23
21	182.8	16.8	904	3	US-09-248-335-69
22	178.8	16.5	970	3	US-09-248-335-47
23	177.8	16.4	946	3	US-08-924-747-11
24	177.8	16.4	946	4	US-09-247-373B-11
25	177.8	16.4	946	4	US-09-296-715-11
26	177.4	16.4	840	2	US-08-924-759-13
27	177.4	16.4	840	3	US-09-248-335-13

28 176.2 16.2 1013 3 US-09-248-335-71 Sequence 71, Appl
29 174.2 16.1 937 3 US-09-248-335-37 Sequence 37, Appl
30 173.8 16.0 840 3 US-09-248-335-45 Sequence 45, Appl
31 167.4 15.4 1074 3 US-09-248-335-67 Sequence 67, Appl
32 166.8 15.4 900 3 US-09-248-335-61 Sequence 61, Appl
33 164.4 15.2 756 3 US-09-248-335-49 Sequence 49, Appl
34 160.4 14.8 860 3 US-09-248-335-41 Sequence 41, Appl
35 160 14.7 934 3 US-09-248-335-55 Sequence 55, Appl
36 158.6 14.6 967 3 US-09-248-335-59 Sequence 59, Appl
37 155 14.3 960 3 US-09-248-335-57 Sequence 57, Appl
38 153.8 14.2 993 4 US-08-924-747-17 Sequence 17, Appl
39 153.8 14.2 993 4 US-09-247-373B-17 Sequence 17, Appl
40 153.8 14.2 993 4 US-09-296-715-17 Sequence 17, Appl
41 153.6 14.2 1179 4 US-09-247-373B-43 Sequence 43, Appl
42 148 13.6 872 3 US-09-248-335-63 Sequence 63, Appl
43 127.6 11.8 441 1 US-08-525-507-3 Sequence 3, Appl
44 91 8.4 3046 1 US-08-525-507-7 Sequence 7, Appl
45 87.6 8.1 885 3 US-08-924-747-23 Sequence 23, Appl

ALIGNMENTS

RESULT 1
US-08-924-759-21
; Sequence 21, Application US/08924759
; Patent No. 5962229
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE
; TITLE OF INVENTION: ENZYMES
; NUMBER OF SEQUENCES: 24
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: E.I. DU PONT DE NEMOURS AND COMPANY
; STREET: 1007 MARKET STREET
; CITY: WILMINGTON
; STATE: DELAWARE
; COUNTRY: UNITED STATES OF AMERICA
; ZIP: 19898
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.50 INCH
; COMPUTER: IBM PC COMPATIBLE
; OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
; SOFTWARE: MICROSOFT WORD VERSION 7.0A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/924,759
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: FLOYD, LINDA AXAMETHY
; REGISTRATION NUMBER: 33,692
; REFERENCE/DOCKET NUMBER: CL-1128
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 302-892-8112
; TELEFAX: 302-773-0164
; INFORMATION FOR SEQ ID NO: 21:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 996 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; TISSUE TYPE: MAIZE
; IMMEDIATE SOURCE:
; CLONE: CEB5.PK0049.A11
US-08-924-759-21
Query Match 41.5%; Score 450.4; DB 2; Length 996;
Best Local Similarity 79.2%; Pred. No. 7.7e-84;


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; SOFTWARE: MICROSOFT WORD VERSION 7.0A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/924,759
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: FLOYD, LINDA AXAMETHY
; REGISTRATION NUMBER: 33,692
; REFERENCE/DOCKET NUMBER: CL-1128
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 302-892-8112
; TELEFAX: 302-773-0164
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 948 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; TISSUE TYPE: maize
; IMMEDIATE SOURCE:
; CLONE: ceb5.pk0051.f8
; US-08-924-759-11

; Query Match 41.0%; Score 444.8; DB 2; Length 948;
; Best Local Similarity 81.0%; Pred. No. 1.1e-82;
; Matches 557; Conservative 0; Mismatches 122; Indels 9; Gaps 3;
QY 43 GCAATGCGGGCGAGAGGGGCTGGTCTGCTGGAATCTTCTGGGTGAGCCCGCTTCGGGCGAG 102
Db 21 GCGGGGAGACGAGAGAGGGCTGGTCTGCTGGAATCTTCTGGGTGAGCCCGCTTCGGGCGAG 80
QY 103 CGGTGCGCATCGCGTGGCGGAGAGGGCTGCTCCCTACAGTACGCGGAGGAGGAGCTG 162
Db 81 CGTGGCGCATCGCGTGGCGGAGAGGGCATGCGCTTACAGTACTCGGAGGAGGAGCTG 140
QY 163 ATGGCGGG---CAAGAGCGACCGCTCTCTCGGCGCAACCGCGTGCTAAGAGATCCCG 219
Db 141 CTGGGCGGCGCAAGAGGACATCTCTCGCTCCAAACCGGTGACAGAGATCCCC 200
QY 220 GTGCTCTCCACGAGCGCGGTGCGTCAAGAGTCCCTCATCTCATCTCCAGTACCTGGAG 279
Db 201 GTGCTCTCCACGAGCGCGCGCTGCGAGTCCCTCGTCACTCTCGAGTACCTCGAG 260
QY 280 GAGGCTTCCCGA---CGCGCGCTCTGCTCCCTCCGACCCCTACGCGCGCGCGAG 336
Db 261 GAGGCTTCCCGAGGCTCTCCCGAGGCTCTCCCGAGCGCGCTACGCGCGCGCGAG 320
QY 337 GCGCGCTTCTGGGCGGACTACGTGACAGAGGTCTTACGACTGCGGCTCCCGCTCTGG 396
Db 321 GCGCGCTTCTGGGCGGCTACTCCGAC---AAGGTCTACAAGCGCGGACGCGCTGTGG 377
QY 397 AAGCTCAAGGGCGAGCGGAGCGAGCGCGCGCGCGAGATGCTGACATCTCTCAAGACC 456
Db 378 AAGCTCAAGGGCGAGCGGCGGCGGAGCGCGCGCGCGAGATGCTGACAGTGGTCCGGAAC 437
QY 457 CTGACGCGCGCTCGGGGACAGCCCTTCTCGGCGGCGGACAGTTCGGGTTCTGTCGAC 516
Db 438 CTGACGCGGAGTAGGGGACAGGCGCTTCTCGGCGGCGGAGCGCTTCGGGTTCTGTCGAC 497
QY 517 GCGCGCTTCTCGGCGCTTCTACCGCGTGTCTCCACAGCTTACAGAGGTACGCGGAGTTCAGC 576
Db 498 GTGGCGCTCTGCGCTTCTGTCGCTGGCTCCCGAGCTACAGCGGCTACGCGGAGTTCAGC 557
QY 577 CTGCGGAGGTGGCGCCAAAGATCGCGCGTGGGCCAAGCGCTCGCGGAGCGGAGAGC 636
Db 558 GTGGCGGAGATCGCGCCAGGCTGGCGCGTGGCGCGCGGCTGCGCGGAGCGGAGAGC 617
QY 637 GTGCGCAAGAGCTCTACTCGCGGAGCAAGGTGTACGACTTCTATCGGCTTCTCAAGAAG 696
;
; Query Match 41.0%; Score 444.8; DB 3; Length 948;
; Best Local Similarity 81.0%; Pred. No. 1.1e-82;
; Matches 557; Conservative 0; Mismatches 122; Indels 9; Gaps 3;
QY 43 GCAATGCGGGCGAGAGGGGCTGGTCTGCTGGAATCTTCTGGGTGAGCCCGCTTCGGGCGAG 102
Db 21 GCGGGGAGACGAGAGAGGGCTGGTCTGCTGGAATCTTCTGGGTGAGCCCGCTTCGGGCGAG 80
QY 103 CGGTGCGCATCGCGTGGCGGAGAGGGCTGCTCCCTACAGTACGCGGAGGAGGAGCTG 162
Db 81 CGTGGCGCATCGCGTGGCGGAGAGGGCATGCGCTTACAGTACTCGGAGGAGGAGCTG 140
QY 163 ATGGCGGG---CAAGAGCGACCGCTCTCTCGGCGCAACCGCGTGCTAAGAGATCCCG 219
Db 141 CTGGGCGGCGCAAGAGGACATCTCTCGCTCCAAACCGGTGACAGAGATCCCC 200
QY 220 GTGCTCTCCACGAGCGCGGTGCGTCAAGAGTCCCTCATCTCATCTCCAGTACCTGGAG 279
Db 201 GTGCTCTCCACGAGCGCGCGCTGCGAGTCCCTCGTCACTCTCGAGTACCTCGAG 260
QY 280 GAGGCTTCCCGA---CGCGCGCTCTGCTCCCTCCGACCCCTACGCGCGCGCGAG 336
Db 261 GAGGCTTCCCGAGGCTCTCCCGAGGCTCTCCCGAGCGCGCTACGCGCGCGCGAG 320
QY 337 GCGCGCTTCTGGGCGGACTACGTGACAGAGGTCTTACGACTGCGGCTCCCGCTCTGG 396
Db 321 GCGCGCTTCTGGGCGGCTACTCCGAC---AAGGTCTACAAGCGCGGACGCGCTGTGG 377
QY 397 AAGCTCAAGGGCGAGCGGAGCGAGCGCGCGCGCGAGATGCTGACATCTCTCAAGACC 456
Db 378 AAGCTCAAGGGCGAGCGGCGGCGGAGCGCGCGCGCGAGATGCTGACAGTGGTCCGGAAC 437
QY 457 CTGACGCGCGCTCGGGGACAGCCCTTCTCGGCGGCGGACAGTTCGGGTTCTGTCGAC 516
Db 438 CTGACGCGGAGTAGGGGACAGGCGCTTCTCGGCGGCGGAGCGCTTCGGGTTCTGTCGAC 497
QY 517 GCGCGCTTCTCGGCGCTTCTACCGCGTGTCTCCACAGCTTACAGAGGTACGCGGAGTTCAGC 576
Db 498 GTGGCGCTCTGCGCTTCTGTCGCTGGCTCCCGAGCTACAGCGGCTACGCGGAGTTCAGC 557
QY 577 CTGCGGAGGTGGCGCCAAAGATCGCGCGTGGGCCAAGCGCTCGCGGAGCGGAGAGC 636
Db 558 GTGGCGGAGATCGCGCCAGGCTGGCGCGTGGCGCGCGGCTGCGCGGAGCGGAGAGC 617
QY 637 GTGCGCAAGAGCTCTACTCGCGGAGCAAGGTGTACGACTTCTATCGGCTTCTCAAGAAG 696
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Db 618 GTGGCCAGAGCCCTTACCCGCGGAAGAGTGGACGATTTCATCAACTGCTCAAGAG 677
Qy 697 AAGTACGGCATCGAGTAGCGCGCGAC 724
Db 678 ACCTACGGCATCGAGTAGTAGAGCGAC 705

RESULT 5

US-09-248-335-43

; Sequence 43, Application US/09248335

; Patent No. 6096504

; GENERAL INFORMATION:

; APPLICANT: MCGONIGLE, BRIAN

; APPLICANT: O'KEEF, DANIEL

; TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE ENZYMES

; FILE REFERENCE: CL-1128-A

; CURRENT APPLICATION NUMBER: US/09/248,335

; CURRENT FILING DATE: 1999-02-10

; EARLIER APPLICATION NUMBER: 08/924,759

; EARLIER FILING DATE: 1997-September-05

; NUMBER OF SEQ ID NOS: 74

; SOFTWARE: Microsoft Word Version 7.0A

; SEQ ID NO 43

; LENGTH: 1228

; TYPE: DNA

; ORGANISM: maize

US-09-248-335-43

Query Match 34.0%; Score 368.4; DB 3; Length 1228;

Best Local Similarity 73.2%; Pred. No. 4.9e-67;

Matches 514; Conservative 0; Mismatches 181; Indels 7; Gaps 3;

Qy 19 GGTGAGATTCAAGCAACCGGAGCAATGGCGGCGAAGAGGGCTGTGTCTGGAC 78
Db 166 GGCCGATCGACGAGCAGCTGTTGGCAATGGCGGCGGCGAGTCTGTCTGGAC 225
Qy 79 TTCTGGGTGAGCCGTTGGGAGCGCTGCCATCGCTGGCGAGAGGGCTGGCC 138
Db 226 TTCTGGGTGAGCCGTTGGGAGCGCTGCCGATCGCGCTGGCGAAGGGCTGGCC 285
Qy 139 TACGAGTACCGGAGGAGACCTGATGGCGGCGCAAGAGCGCGCTCTCCGCGCAAC 198
Db 286 TACGAGTACCGGAGGAGACCTCTG---GACAGGGGAGCTGCTCTCGCTCCAC 342
Qy 199 CCGGTGCATAAAGATCCCGTGTCTCCACGACGGCCGTGCCGTCAACGAGTCCCTC 258
Db 343 CCATCCCAAGAAGATCCCGTGTCTCCACGCGCGGCGCGCTGTGCGAGTCTGCTC 402
Qy 259 ATCATCTCCAGTACTGAGGAGGCTTCCGCGAGCGCGCGCTGTGCTCCCG---TCC 315
Db 403 GTCATCTCCAGTACTGAGGAGGCTTGGCGGAGCTGCGCGCGCTCTCTCCCGAGGAC 462
Qy 316 GACCCCTACCGCGCGCGAGGCGCGCTTCTGGCGCGACTAGTCTGCAAGAAGTCTTAC 375
Db 463 GACCCCTACCGCGCGCGAGGCGGCTTCTGGCGGATTAATCGACAGAAGATCTAT 522
Qy 376 GACTGGGCTCCCGCTCTGGAGTCAAGGGCGAGCCGCGAGCGCGCGCGCGAG 435
Db 523 GACAGCCAGCTCGGCTGTGGAAGTTCGAGGGCGAGGCGCGGAGCGAGGCAAGAGGAC 582
Qy 436 ATGCTGGACATCTCAAGACCTTCGACGGCGCTCGGGGCAAGGCCCTTCTTCGCGGC 495
Db 583 CTGGTGGAGGCTCTGGAGA-CTGGAGGGGAGGCTCGCCGACAAGCTTCTTCGCGCGC 641
Qy 496 GACAAGTTCGGGTTCCTCGACCGCGCTTCCGCGCCCTTCCACCGCGTGTTCACAGCTAC 555
Db 642 GCGCCCTCGGCTTCTGAGCGTGGCTCTGTGTGCCCTTCACTGCTGTCTTCGCTTAC 701
Qy 556 GAGAGTACGGGAGTTCAGCTTCCGAGAGTGGCGGCCCAAGATCGCCCGTGGGCGAAG 615
Db 702 GAGAAGCTGGGCGGTTACGCTCCAGGAGCACTGCCCCCAGGATCTGTGGCCCTGGGCGCG 761

Qy 616 CGCTGGCGGAGCGGAGAGCGTCCCAAGAGCCTTACTCGCGGACAAAGTGTACGAC 675
Db 762 CGCTGCAAGGAGCGGAGAGCGTGGCCAAGCCATGTCCGACCTGCCAAGTGTCTCGAG 821
Qy 676 TTTCATCGGCTGTCTCAAGAAGAAGTAGCGCATCGTAGGCG 717
Db 822 TTCTCCAGTTCCTCCAGAGCAAGTTCGGGCCAAGTATCG 863

RESULT 6

US-09-248-335-39

; Sequence 39, Application US/09248335

; Patent No. 6096504

; GENERAL INFORMATION:

; APPLICANT: MCGONIGLE, BRIAN

; APPLICANT: O'KEEF, DANIEL

; TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE ENZYMES

; FILE REFERENCE: CL-1128-A

; CURRENT APPLICATION NUMBER: US/09/248,335

; CURRENT FILING DATE: 1999-02-10

; EARLIER APPLICATION NUMBER: 08/924,759

; EARLIER FILING DATE: 1997-September-05

; NUMBER OF SEQ ID NOS: 74

; SOFTWARE: Microsoft Word Version 7.0A

; SEQ ID NO 39

; LENGTH: 773

; TYPE: DNA

; ORGANISM: maize

US-09-248-335-39

Query Match 18.7%; Score 203.2; DB 3; Length 773;

Best Local Similarity 59.2%; Pred. No. 2.9e-33;

Matches 406; Conservative 0; Mismatches 266; Indels 12; Gaps 3;

Qy 50 CGGCGAGAAGGGCTGTGTCTGTGGACTTCTGGGTGAGCCGCTTCGGGAGCGCGTGC 109
Db 1 CGGAGCGCAGCAGCTGAAGGTGTGGCCCTGTGGACGAGCCGTTCTGTATCCGGTCC 60
Qy 110 GCATCGCGCTGGCGAGAGGGCTGCCCTACGAGTAGCGGAGAGGACCTGATGGCG 169
Db 61 GCATGTGTCTCAACCTCAAGGGCTGGCGTAGAGTACGTGGAGCAGACC---TCGGCA 117
Qy 170 GCAAGAGCGACCGCTCTCCGCGCAACCGGTGTCATAAGAAGATCCGCTGTCTCC 229
Db 118 ACAAGAGCGCGTCTCTGTCTAGCTTCAACCCGGTGCACAAGACCGTCCCGTGTCTCC 177
Qy 230 ACAGCGCGCTGCGCTCAACGAGTCCCTCATCTCCAGTACCTGAGGAGGCGCTTCC 289
Db 178 ACGCGGTGCGCCCGTAAACGAGTCCCAAGATCATCTGACGAGGTCTGGG 237
Qy 290 CGG---ACGCGCGCTGTGTCTCCCTCCGACCCCTAGCGGCGCGCGAGCGCGCTTCT 346
Db 238 CGGAGACCGGCGCGCGCTGTGTGCGCGCGACCCCTATGAGCGCGCGCGCGGTCT 297
Qy 347 GGGCGGCTAGCTCGACAAGAAGGTCTACGAC-----TGGCGCTCCCGCTCTGGAAGC 400
Db 298 GGGCGGCTATATCGACGACGAGTGAAGTCCGCTGCTGGCATGCTGTTCAGTGCA 357
Qy 401 TCAAGGGCGAGCGCGAGCGCGCGCGCGCGCGCTGAGATCTGGACATCTCAAGACCTTCG 460
Db 358 GGGACGAGGGGAGCGGGCGGAGCGGTGGCGCGCGCGCGCGCTCGGAGCGCTCG 417
Qy 461 ACGGCGCGCTCGGGACAAGCCCTTCTTCGCGCGGCGACAAGTTCGGGTTCGACGCG 520
Db 418 AGGGCGCGCTCAGGGGAAAGCCCTTCTTCGCGCGCGACGCGCTTCGGTTCGAGACCG 477
Qy 521 CTTTCGCGCCCTTCAACCGCTGTGTTCACAGCTACGAGAGTACGGCGAGTTCAGCCCTGC 580
Db 478 TGCTCGGCGGTACTCTCGCTGTGTTCGGGCGCTGCGGAGGATCATCGCGCGAGCTGA 537
Qy 581 CGGAGTGGCGCCCAAGATCGCCGCTGGGCGCAAGCGCTGCGGCGAGCGGAGAGCGTTCG 640
Db 538 TCGACCCGACTAAGACCGCGCTGTGGCCGCGGTGGAGGACCGGTTCGCGCGCCGACG 597

QY 641 CCAAGAGCCTCTACTCGCGGACAAAGGTGACGACTTCTATCGCGTCTCAAGAGAACT 700
Db 598 TGGCCAAAGGCGTGTACCGGACGAGCTGCAAGATGCTCGGTCTCTGGAGACCCCTGC 657
QY 701 ACGGCATCGAGTAGGCGCGCCGACGG 726
Db 658 TCGCGAAGCTACTTCTCAAGTGAATG 683

RESULT 7
US-08-924-747-5
; Sequence 5, Application US/08924747
; Patent No. 6063570
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: SOYBEAN GLUTATHIONE-S-TRANSFERASE
; TITLE OF INVENTION: ENZYMES
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: E.I. DU PONT DE NEMOURS AND COMPANY
; STREET: 1007 MARKET STREET
; CITY: WILMINGTON
; STATE: DELAWARE
; COUNTRY: UNITED STATES OF AMERICA
; ZIP: 19898
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.50 INCH
; COMPUTER: IBM PC COMPATIBLE
; OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
; SOFTWARE: MICROSOFT WORD VERSION 7.0A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/924,747
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: FLOYD, LINDA AXAMETHY
; REGISTRATION NUMBER: 33,692
; REFERENCE/DOCKET NUMBER: CL-1108
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 302-892-8112
; TELEFAX: 302-773-0164
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 902 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; TISSUE TYPE: SOYBEAN
; IMMEDIATE SOURCE:
; CLONE: GSTA

US-08-924-747-5
Query Match 18.7%; Score 202.6; DB 3; Length 902;
Best Local Similarity 58.1%; Pred. No. 4e-33;
Matches 377; Conservative 0; Mismatches 269; Indels 3; Gaps 1;

QY 67 GTGCTGCTGGAATCTTGGGTGAGCCCGTTCCGGGACGCGGTGGGATCGCGTGGCCGAG 126
Db 15 GTGTTATTAGAGTTCTGGCCAAAGTCCATTTGGGATGAGGGTCAAGATTGCACTTGTGAA 74
QY 127 AAGGGCTCCCTACGAGTACGGGAGGAGGACCTGATCGCGGCAAGAGCGACCGCTC 186
Db 75 AAGGGTATCAATATAGTACAAAGAGAGGACTTGAGGAA---CAAGAGTCTCTTCTC 131
QY 187 CTCGCGCCCAACCGGTGCAATAGAGATCCCGGTCTCTCCACGACGGCGGTGCCGTC 246
Db 132 CTCCAATGAAACCGGTTACAGAGAGATTCGGGTCTCTATCCATGCGCAATGGCAACCCATT 191

QY 247 AACGAGTCCCTCATCATCTCCAGTACCTGGAGGAGCGCTTCCCGAGCGCGCCGCTCTG 306
Db 192 TGTGAATCCCTCATTTGCTGTTTCTAGTACATTTGAGGAGGTTTGGAAATGACAGAAATCCCTTG 251
QY 307 CTCCTCTCGAGCCCTACGCGCGCGAGGCGCCCTTCTTGGGCGGACTTACCTGCGACAG 366
Db 252 TTGCCTTCTGACCTTACCAGAGAGCTCAGACTAGATTCTGGGCTGATTATGTTGATAG 311
QY 367 AAGGTCTACGACTCGGCTCCGCTCTTGGAAAGCTCAAGGGCGAGCGCGAGCGGAGCG 426
Db 312 AAGATATATGATCTTTGGAAGGAAGATTTCGACATCAAAAGAGAGAAAGAAAGAGTGGC 371
QY 427 CGCGCGGAGATGCTCGACATCTCTCAGACCTTCGAGCGGCGCTCGGGAGCAAGCCCTTC 486
Db 372 AAGAAGGAGTTTATAGAACCCCTTAAATTTGTTGAGGAACAGCTGGGAGACAAGACTTAT 431
QY 487 TTGCGCGCGCAAGTTCGGGTTTCGACGCGCGCTTCGCGCCCTTACCOCGCTGGTTC 546
Db 432 TTTGGAGGAGACAATCTAGGTTTTCGGATATAGCGCTTGTTCCATTCTACACTTGGTTC 491
QY 547 CACAGCTAGAGAGGTAGCGGAGTTTACGCTTCGCGGAGGTGGCGCCCAAGATCGCCGCG 606
Db 492 AAAGCTATGAGACTTTTGGCACCTTCAACATAGAGAGTGAAGTGGCCCAAGTTTATGCT 551
QY 607 TGGGCCAAGCGCTGCGCGAGCGGAGAGCGCTCGCCAAAGAGCCTCTACTCGCGGACAG 666
Db 552 TGGGCCAAGAGTGCTTCAGAAAGAAAGCGTTGCCAAGTCTCTTCTCTGATCAGCAAAAG 611
QY 667 GTGTACGACTTCATCGGCTCTCAAGAAAGAGTACGGCATCGAGTAGG 715
Db 612 GTTTATGAGTTTATGGAICTAGAAAGAGTAGGATGAGTAGG 660

RESULT 8
US-09-247-373B-5
; Sequence 5, Application US/09247373B
; Patent No. 6168954
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: SOYBEAN GLUTATHIONE-S-TRANSFERASE ENZYMES
; FILE REFERENCE: CL-1108-A
; CURRENT APPLICATION NUMBER: US/09/247,373B
; CURRENT FILING DATE: 1999-02-10
; PRIOR APPLICATION NUMBER: 08/924,747
; PRIOR FILING DATE: 1997-09-05
; NUMBER OF SEQ ID NOS: 56
; SOFTWARE: Microsoft Office 97
; SEQ ID NO 5
; LENGTH: 902
; TYPE: DNA
; ORGANISM: SOYBEAN
US-09-247-373B-5

Query Match 18.7%; Score 202.6; DB 4; Length 902;
Best Local Similarity 58.1%; Pred. No. 4e-33;
Matches 377; Conservative 0; Mismatches 269; Indels 3; Gaps 1;

QY 67 GTGCTGCTGGAATCTTGGGTGAGCCCGTTCCGGGACGCGGTGGGATCGCGTGGCCGAG 126
Db 15 GTGTTATTAGAGTTCTGGCCAAAGTCCATTTGGGATGAGGGTCAAGATTGCACTTGTGAA 74
QY 127 AAGGGCTCCCTACGAGTACGGGAGGAGGACCTGATGGCGGCAAGAGCGACCGCTC 186
Db 75 AAGGGTATCAATATAGTACAAAGAGAGGACTTGAGGAA---CAAGAGTCTCTTCTC 131
QY 187 CTCGCGCGCAACCGGTGCAATAGAGATCCCGGTCTCTCCACGAGCGCGGTGCCGTC 246
Db 132 CTCCAATGAAACCGGTTCAAGAAAGATTCGGGTCTCTATCCCAATGGCAAAACCCATT 191
QY 247 AACGAGTCCCTCATCATCTCCAGTACCTCGAGGAGGCGCTTCCCGAGCGCGCCGCTCTG 306

Db 192 TGTGAATCCCTCATTGCTTGTAGTACATTCAGAGAGGTTTGGATGACAGAAATCCCTTG 251
Qy 307 CTCCCTCCGACCCCTACGCGCGCGCAGCCCGCTTCTGCGCGCAGTACGTCGACAAG 366
Db 252 TTGCTTCTGACCTTACACGAGAGCTCAGACTAGATTCTGGGCTGATTATGTTGATAAG 311
Qy 367 AAGGCTACGAGTACGCTCCGCTCTGGAAGCTCAAGGCGAGCGCGAGCGCGAGCG 426
Db 312 AAGATATATGATCTTGGAGGAAGATTGGACATCAAAAGAGAGAAAGAAAGAGCTGCC 371
Qy 427 CGCGCCGAGATGCTGGACATCCTCAAGACCCCTCGACGCGCGCTCGGCGGCAAGCCCTTC 486
Db 372 AAGAGAGGTTTATAGAGCCCTTAATTTGTTGAGGACAGCTGGGAGACAGACTTAT 431
Qy 487 TTGCGCGCGGACAGTTGCGGTTCTGTCGACCGCGCTTTCGCGCCCTTCAACGCGTGGTTC 546
Db 432 TTTGGAGAGACAATAGGTTTGTGATATAGCGCTTGTTCATTTCTACACTTGGTTC 491
Qy 547 CACAGCTACGAGAGTACGCGAGTTTCTGAGTCTGCGGAGGTTGGCGCCCAAGATCGCGCG 606
Db 492 AAGCCTATGAGCTTTTGGCACCCCTCAACATAGAGAGTGGTCCCAAGTTTATTGCT 551
Qy 607 TGGCCCAAGAGTGCCTTCAGAAAGAAAGCGTTGCCAAGTCTCTTCTGATCAGCAAAAG 666
Db 552 TGGCCCAAGAGTGCCTTCAGAAAGAAAGCGTTGCCAAGTCTCTTCTGATCAGCAAAAG 611
Qy 667 GTGTACGACTTACGCGCTCTCAAGAGAGTACGCGCATCGAGTAGG 715
Db 612 GTTTATGAGTTTCAATGAGTCTAAGAAAGAAAGTTAGGCATTGAGTAGG 660

RESULT 9

US-09-296-715-5
; Sequence 5, Application US/09296715
; Patent No. 6171839
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: SOYBEAN GLUTATHIONE-S-TRANSFERASE
; TITLE OF INVENTION: ENZYMES
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: E. I. DU PONT DE NEMOURS AND COMPANY
; STREET: 1007 MARKET STREET
; CITY: WILMINGTON
; STATE: DELAWARE
; COUNTRY: UNITED STATES OF AMERICA
; ZIP: 19898
; MEDIUM TYPE: DISKETTE, 3.50 INCH
; COMPUTER: IBM PC COMPATIBLE
; OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
; SOFTWARE: MICROSOFT WORD VERSION 7.0A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/296,715
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: FLOYD, LINDA AXAMETHY
; REGISTRATION NUMBER: 33,692
; REFERENCE/DOCKET NUMBER: CL-1108
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 302-892-8112
; TELEFAX: 302-773-0164
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 902 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO

; ORIGINAL SOURCE:
; TISSUE TYPE: SOYBEAN
; IMMEDIATE SOURCE:
; CLONE: GSTA
; US-09-296-715-5

Query Match 18.7%; Score 202.6; DB 4; Length 902;
Best Local Similarity 58.1%; Pred. No. 4e-33;
Matches 377; Conservative 0; Mismatches 269; Indels 3; Gaps 1;

Qy 67 GTCTGTCTGACTTCTTGGGTGAGCCCGTTCGGGCGAGCGGTGCGCATCGCGTGGCCGAG 126
Db 15 GTGTATTAGAGTTCTTGGCCAAGTCCATTGGGATGAGGCTCAGGATTGCACTTGTCTGA 74
Qy 127 AAGGCGCTGCCCTTACAGTATCGCGGAGAGGACCTGATGCCCGGCAAGAGCGACCGCTC 186
Db 75 AAGGCTATCAAAATATAGTACAAAGAGAGGACTTGAAGAA---CAAGAGTCTCTTCTTC 131
Qy 187 CTCGCGCGCAACCCGCTGTCATAGAGAGTCCCGGTCTCTCCACGACGCGCGCTCTG 246
Db 132 CTCCAATGAACCCGCTTCAAGAAAGATTCCGGTCTCATCCCAATGGCAAAACCAATT 191
Qy 247 AAGGAGTCCCTCATCATCTCTCCAGTACCTTGGAGAGGCGCTTCCCGGACGCGCGCTCTG 306
Db 192 TGTGAATCCCTCATCTGTTTGTGATACATTTAGAGAGTTTGGATGACAGAAATCCCTTG 251
Qy 307 CTCCCTTCGACCCCTTACGCGCGCGGAGCGCCGCTTCTTGGGCGGACTACGTCGACAAG 366
Db 252 TTGCTTCTGACCCCTTACCAGAGAGCTCAGACTAGATTCTGGGCTGATTATGTTGATAAG 311
Qy 367 AAGTCTACGACTGCGGCTCCCGCTCTGGAAGCTCAAGGCGGAGCGCGAGGCGCGAGG 426
Db 312 AAGATATATGATCTTGAAGGAAGATTTGGACATCAAAAGAGAGAAAGAAAGAGCTGCC 371
Qy 427 CGCGCCGAGATGCTGGACATCTCTCAAGACCCCTCGAGCGCGCTCGGGGACAGCCCTTC 486
Db 372 AAGAGGAGTTTATAGAGCCCTTAATTTGTTGAGGAAACAGCTGGGAGACAGACTTAT 431
Qy 487 TTGCGGCGGACAAAGTTTGGGTTCTGTCGAGCGCGCTTTCGCGCCCTTACCGGCTGGTTC 546
Db 432 TTTGGAGGAGACAATCTAGGTTTGTGGATATAGCGCTTGTCCATTCTACACTTGGTTC 491
Qy 547 CACAGCTACGAGAGTACGCGAGTTTCTGAGTCTCAGCTCGCGAGGTGGCGCCCAAGATCGCGCG 606
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Db 552 TGGCCCAAGAGTGCCTTTCAGAAAGAAAGCGTTGCCAAGTCTCTTCTGATCAGCAAAAG 611
Qy 667 GTGTACGACTTCTATCGGCTGCTCAAGAGAGTACGCGCATCGAGTAGG 715
Db 612 GTTTATGAGTTTCAATGAGTCTAAGAAAGAAAGTTAGGCATTGAGTAGG 660

RESULT 10

US-08-924-747-19
; Sequence 19, Application US/08924747
; Patent No. 6063570
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: SOYBEAN GLUTATHIONE-S-TRANSFERASE
; TITLE OF INVENTION: ENZYMES
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: E. I. DU PONT DE NEMOURS AND COMPANY
; STREET: 1007 MARKET STREET
; CITY: WILMINGTON
; STATE: DELAWARE
; COUNTRY: UNITED STATES OF AMERICA
; ZIP: 19898
; COMPUTER READABLE FORM:


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Db 657 AGCAAGGCTATGAGTTCGTTGTGGAGATAAGAAAGAGTTAGTCATCGAGTAGG 713

RESULT 12
US-09-296-715-19
; Sequence 19, Application US/09296715
; Patent No. 6171839
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: SOYBEAN GLUTATHIONE-S-TRANSFERASE
; TITLE OF INVENTION: ENZYMES
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: E.I. DU PONT DE NEMOURS AND COMPANY
; STREET: 1007 MARKET STREET
; CITY: WILMINGTON
; STATE: DELAWARE
; COUNTRY: UNITED STATES OF AMERICA
; ZIP: 19898
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.50 INCH
; COMPUTER: IBM PC COMPATIBLE
; OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
; SOFTWARE: MICROSOFT WORD VERSION 7.0A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/296.715
; FILING DATE:
; CLASSIFICATION:
; ATTORNEY/AGENT INFORMATION:
; NAME: FLOYD, LINDA AXAMETHY
; REGISTRATION NUMBER: 33,692
; REFERENCE/DOCKET NUMBER: CL-1108
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 302-892-8112
; TELEFAX: 302-773-0164
; INFORMATION FOR SEQ ID NO: 19:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 935 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; TISSUE TYPE: SOYBEAN
; IMMEDIATE SOURCE:
; CLONE: SSL:PK0005.B6
; US-09-296-715-19

Query Match 18.2%; Score 197; DB 4; Length 935;
Best Local Similarity 58.3%; Pred. No. 5,7e-32;
Matches 383; Conservative 0; Mismatches 270; Indels 4; Gaps 2;

Qy 59 AGGGCTGGTGTGTGACTTCTGGGTGAGCCGCTTGGGAGCGCGTGGCGATCGCGC 118
Db 61 ATGAGTGGTTCCTCTGGATTCTGGCAAGTCCATTGGGATGAGGCTGAGATTGCAC 120
Qy 119 TGGCGAAGGGCTGCGCCCTACGAGTACGCGGAGGAGACTGATGCGCGCAAGCGG 178
Db 121 TTGCTGAAGAGGATTCGAATATGATGACAAGAGAGGACTTGAGG---AACAAAGTGC 177
Qy 179 ACCGGCTCTCCGCGCAACCGGTGCATAGAAGATCCCGTGTCTCTCACAGCGGCC 238
Db 178 CTCCTCTTCAAAATGAACCGGTTCACAAGAAGATTCGGTTCATCCACATGGCA 237
Qy 239 GTGGCGTCAAGAGTCCCTCATCATCTCCAGTACTCGAGAGAGCGCTTCCGCGAGCGC 298
Db 238 AACCCATTTCGAAATCCCTCATCTGTGTTCAGTACATTGAGGAGGTTTGAATGACAGAA 297
Qy 299 CGGCTCTGCTCCCTCCGACCCCTACGCGCGCGCGCGCGCTTCTGGGCGGACTAGG 358

Db 298 ATCCCTTGTTCGCTTACAGCCCTTACAGAGAGCTCAGGCTAGATTCTGGGCTGATTATG 357
Qy 359 TCGACAAGAAAGGTCTACGACTGCGGCTCCGCGCTCTTGGAAAGCTCAAGGGCGAGCCGAGG 418
Db 358 TTGACATTAAAGATACATGA-TCITGGAAAGAAATTTGGACATCAAAAGGGAGAAAGAAAG 416
Qy 419 CGCAGGGCGCGCGGAGATGCTGGACATCTCTCAAGACCCCTCGAGCGGCGCGCTCGGGGACA 478
Db 417 AAGCTGCCAAAGAAAGGAGTTTCATAGAGCCCTTAAATTTGTTGGAGGAACAGCTGGGAGATA 476
Qy 479 AGCCCTTCTTTCGCGCGCGCAAGTTTCGGGTTTCGTTCGACGCGCGCTTCGCGCCCTTACCG 538
Db 477 AGACTTATTTTGGAGGAGACAATATTTGGTTTGTGGATATAGACATTGTTCAATTCTACA 536
Qy 539 CGTGGTTCCACAGCTACGAGAGTACGGGAGTTTCAGCTTCGCGGAGGTGGCGCCCAAGA 598
Db 537 CTTGGTTCAAAGTCTATGAGACTTTTGGCAGCCCTCAACATTGAGATGAGTGCCTCCAGGT 596
Qy 599 TCGCGCGTGGCGCAAGCGCTGCGGAGCGGCGGAGAGCGTCCGCAAGAGCTCTACTCGC 658
Db 597 TTGTTGCTTGGGCAAGAGGTGCTTACAGAAAGAGAGTGTTCAAAAGTCTCTTCTCTGATC 656
Qy 659 CGGACAAGGTGTACGACTTCATCGGCTGCTCAAGAAAGAGTACGGCATCGAGTAGG 715
Db 657 AGCACAAGGCTATGAGTTCGTTGTGGAGATAAGAAAGAGTTAGTCATCGAGTAGG 713

RESULT 13
US-09-248-335-65
; Sequence 65, Application US/09248335
; Patent No. 6095504
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE ENZYMES
; FILE REFERENCE: CL-1128-A
; CURRENT APPLICATION NUMBER: US/09/248,335
; CURRENT FILING DATE: 1999-02-10
; EARLIER APPLICATION NUMBER: 08/924,759
; EARLIER FILING DATE: 1997-September-05
; NUMBER OF SEQ ID NOS: 74
; SOFTWARE: Microsoft Word Version 7.0A
; SEQ ID NO 65
; LENGTH: 971
; TYPE: DNA
; ORGANISM: maize
; US-09-248-335-65

Query Match 18.1%; Score 196.2; DB 3; Length 971;
Best Local Similarity 61.6%; Pred. No. 8.4e-32;
Matches 331; Conservative 0; Mismatches 203; Indels 3; Gaps 1;

Qy 42 AGCAATGGCGCGCGAGAAAGGGCTGTGCTGCTGCACTTCTGGGTGAGCCCGTTTCGGGCA 101
Db 96 AGCAATAATGGCCGAGAAAGGGCTGAAGGTGTGGGATGTGGCGAGCCCATGTGTAT 155
Qy 102 GCGGTGCGCATCCGCTTGGCCGAGAAAGGGCTTCCCTTACGAGTACGCGAGGAGGACCT 161
Db 156 CAGGTTGAGTGGCGCTGCGGCTGAAGGGCGTCAAGTACGAGTACGTCGACGAGGACC- 214
Qy 162 GATGCGCGGAGAGCGACCGCTCTCCGCGCCCAACCCGCTGCATAGAGATCCCGGT 221
Db 215 --TCGCCAACAAAGAGCGCCGACCTGTCTCCGCCCAACCCCGTGCACCAAGAGGTGCCCGT 272
Qy 222 GCTCTCTCACAGCGCGCTGCGCTCAACGAGTCCCTCATCATCTCCAGTACCTCGGAGGA 281
Db 273 GCTGTCCAAGCGGAGCGGTGCGGAGTCCACCATCATCTGTGAGTATACGACGA 332
Qy 282 GGCCTTCCCGACCGCGCGCGCTCTGTCTCCCTCCGACCCCTTACGCGCGCGCGAGGCCG 341
Db 333 GGTCTGGAAGGGCGGCTACCCCATCATGCGCGGGCGACCCCTTACGAGCGCGCCAGGCGAG 392
Qy 342 CTTCTGGGCGCGACTACGTCGACAAAGAGTCTACGACTGGGCTCCCGCTCTCGGAAGCT 401
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Db 393 GTTCTGGGCGAGGTTGCGGAAGACAGTCAAGCTGCTCTGTACCCGATCTTACCGC 452
QY 402 CAAGGGCGAGCCGAGCGCGCGCGCGAGATGCTGGACATCTTCAAGACCCCTCGA 461
Db 453 GACCGGCGAGCGCGAGCGCGAGCGGTCACGAGGCCACGATGCTTCAAGACCCCTGGA 512
QY 462 CGCGCGCTCGGGGACAGCCCTTCTTCGCGGGGAGCAAGTTCTGGGTTCTGTCAGCGCGC 521
Db 513 GACCGGCTTGGAGGGGAGAAAGTTCTTCGCGCGGAGCGCGTGGGCTACCTGACATCGT 572
QY 522 CTTTCGCGCCCTTACCGCGTGTTCACACAGTACGAGAGTACGGGAGTTTCAAGCT 578
Db 573 CGTGGGTGTTGCGGCACTGGCTCCCGTCTATCGAGAGGTACCGGCGCCAGCGT 629

RESULT 14
US-08-924-759-9
; Sequence 9, Application US/08924759
; Patent No. 5962229
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE
; TITLE OF INVENTION: ENZYMES
; NUMBER OF SEQUENCES: 24
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: E.I. DU PONT DE NEMOURS AND COMPANY
; STREET: 1007 MARKET STREET
; CITY: WILMINGTON
; STATE: DELAWARE
; COUNTRY: UNITED STATES OF AMERICA
; ZIP: 19898
; COMPUTER READABLE FORM:
; MEDIUM TYPE: DISKETTE, 3.50 INCH
; COMPUTER: IBM PC COMPATIBLE
; OPERATING SYSTEM: MICROSOFT WORD FOR WINDOWS 95
; SOFTWARE: MICROSOFT WORD VERSION 7.0A
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/924,759
; FILING DATE:
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: FLOYD, LINDA AXAMETHY
; REGISTRATION NUMBER: 33,692
; REFERENCE/DOCKET NUMBER: CL-1128
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 302-892-8112
; TELEFAX: 302-773-0164
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 911 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; TISSUE TYPE: MAIZE
; IMMEDIATE SOURCE:
; CLONE: CC71SE-B.PK0014.B8
; US-08-924-759-9

Query Match 18.0%; Score 195; DB 2; Length 911;
Best Local Similarity 57.5%; Pred. No. 1.5e-31;
Matches 411; Conservative 0; Mismatches 295; Indels 9; Gaps 3;
QY 39 GCGAGCAATGGCGGCGAGAGGGGCTGGTCTGCTGCACTTCTGGGTGAGCCGCTCGG 98
Db 5 GGTGACATGCTGCTCCGCGCGGTGAAGCTGATCGGCTTCTTCGGAGCCCGTACGC 64
QY 99 GCAGCGGTGCGCATCGCTGGCCGAGAGGGGCTGCCCTACGAGTACGCGGAGGAGGA 158

Db 65 GTTCCGCGGAGGCGCGCTGTGCTGAAGGCTGCCGTACGAGCTGATCTCTGGAGA 124
QY 159 CTTGATGGCGGCGAGAGCGACCGCTCTCTCCGCGCAACCCCGGTGCATAAAGAATCC 218
Db 125 CTTGTTCCGCGAGCAAGAGCGAGCTCTCTGCTCCACCAACACCCCGTGCACAAGAAGTGC 184
QY 219 GGTGCTCTCCCA---CGAGGCGGTGCGCTCAACAGTCCCTCATCATCTCTCAGTACCT 275
Db 185 CGTGTCTCTCCACGCGGAGCGCGGCGGCATCTCCGAGTCCCTGCTCATCGCGAGTACGT 244
QY 276 GGAGGAGGCTTCCCGGAGCGCGCGCTGCTGCTCCCTCGACCCCTACGCGCGCGCGCA 335
Db 245 CGAGGAGGCTTC---GACGCGCGCGCTGCTCCCCCGGACCCCTACGCGCGCGCGC 301
QY 336 GCGCCGCTTCTGGGCGCACTAGCTCGACAAGAGGTCTACGA---CTGGGGCTCCCGCCT 392
Db 302 CGCCCGCTTCTGGCGGACTTTCATCGAGACCAAGGCTCACCAAGCCCTTCTTCATGGGAT 361
QY 393 CTGGAAGCTCAAGGGGAGCGCGAGCGCGAGCGCGCGCGCGCGAGATGCTGGACATCTCAA 452
Db 362 CTTGGTGGAGGAGCGCGAGCGCGCTGCGGTTCGAGGAGAGGCGCCAAAGAGCTCTGGC 421
QY 453 GACCTCGAGCGCGCTCGGGGACAAAGCCCTTCTTCGCGGGGAGCAAGTTCTGGGTTCT 512
Db 422 GCTGCTGGAGGCGAGCTCGAGGAAAGAGTTCTTCGCGCGCGGACAGGCGGGGTACCT 481
QY 513 CGAGCGCGCTTTCGCGCCCTTCAACCGCTGGTTTCAAGTACGAGAGGTACGCGGAGTT 572
Db 482 CGAGCTGGCGCGCTCGCGCTCGGGCCCTGGCGCAGCGTTCATCGAGAGCTCAACGGTGT 541
QY 573 CAGCTTGGCGAGGTGGCGCGCAAGATCGCGCTGGCGCAAGCGCTGGCGCGAGCGGGA 632
Db 542 GCGCTGCTCAGCGAGGATACCAACCCCAACCTGTCGCGTGGACCGAGGACTACTGCGC 601
QY 633 GAGCTCGCAAGAGCTTCTACTCGCGCGAGAGGTGACGACTTTCATCGGCTGCTCAA 692
Db 602 CTTGAGGCTTCTCAAGCGTGTGATCGCGATCGGGAGAGTCTCTCGCTACTTCACTAA 661
QY 693 GAAGAAGTACGGCATCGAGTAGCGCGCGCGAGCGAGCGGAGCGGAGCGGCGCATGAG 747
Db 662 GAATTCGACAGGTACAAAGCGCGCTCAATGCGACGCTATCGCATCGCAGAG 716

RESULT 15
US-09-248-335-9
; Sequence 9, Application US/09248335
; Patent No. 6056504
; GENERAL INFORMATION:
; APPLICANT: MCGONIGLE, BRIAN
; APPLICANT: O'KEEFE, DANIEL
; TITLE OF INVENTION: PLANT GLUTATHIONE-S-TRANSFERASE ENZYMES
; FILE REFERENCE: CL-1128-A
; CURRENT APPLICATION NUMBER: US/09/248,335
; CURRENT FILING DATE: 1999-02-10
; EARLIER APPLICATION NUMBER: 08/924,759
; EARLIER FILING DATE: 1997-September-05
; NUMBER OF SEQ ID NOS: 74
; SOFTWARE: Microsoft Word Version 7.0A
; SEQ ID NO 9
; LENGTH: 911
; TYPE: DNA
; ORGANISM: maize
; US-09-248-335-9

Query Match 18.0%; Score 195; DB 3; Length 911;
Best Local Similarity 57.5%; Pred. No. 1.5e-31;
Matches 411; Conservative 0; Mismatches 295; Indels 9; Gaps 3;
QY 39 GCGAGCAATGGCGGCGAGAGGGGCTGGTCTGCTGCACTTCTGGGTGAGCCCGTTCGG 98
Db 5 GGTGACATGCTGCTCCGCGCGGTGAAGCTGATCGGCTTCTTCGGAGCCCGTACGC 64

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OM nucleic - nucleic search, using sw model

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Title: US-09-508-710-1

Perfect score: 1085

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Scoring table: IDENTITY_NUC

Gapop 10.0 , Gapext 1.0

Searched: 1055720 seqs, 742224136 residues

Total number of hits satisfying chosen parameters: 2111440

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

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Published Applications NA:*

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- 13: /cgm2_6/ptodata/1/pubpna/US60_NEW_PUB.seq.*
- 14: /cgm2_6/ptodata/1/pubpna/US60_PUBCOMB.seq.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match %	Length	DB ID	Description
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C 2	170.6	15.7	737	10	US-09-770-149-77
C 3	165.8	15.3	794	10	US-09-770-445-836
C 4	155.6	14.3	866	10	US-09-770-445-573
5	131.8	12.1	273	10	US-09-923-876-1124
6	120.6	11.1	385	10	US-09-878-574-752
7	114.6	10.6	267	10	US-09-923-876-1137
8	114.4	10.5	249	10	US-09-050-010-8
9	111.4	10.3	257	10	US-09-923-876-1928
10	111.2	10.2	278	10	US-09-923-876-2599
11	110.4	10.2	260	10	US-09-923-876-2087
12	108.6	10.0	267	10	US-09-923-876-1232
13	106.4	9.8	261	10	US-09-923-876-2873
14	105.4	9.7	351	10	US-09-878-574-2942
15	103.2	9.5	268	10	US-09-923-876-3412
16	99.2	9.1	256	10	US-09-923-876-1617
17	99	9.0	345	10	US-09-770-791-782
18	98	9.0	247	10	US-09-923-876-3035
19	96.2	8.9	234	10	US-09-923-876-2550

20	93.6	8.6	251	10	US-09-923-876-1962
21	91.6	8.4	274	10	US-09-923-876-4952
22	91.2	8.4	234	10	US-09-923-876-3102
23	90	8.3	257	10	US-09-923-876-2582
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33	82.4	7.6	513	9	US-09-938-842A-1665
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36	80.6	7.4	255	10	US-09-923-876-875
37	79.4	7.3	264	10	US-09-923-876-627
38	78.8	7.3	684	9	US-09-938-842A-2676
39	78.6	7.2	270	10	US-09-878-574-9297
40	78.6	7.2	675	9	US-09-938-842A-2186
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42	77	7.1	250	10	US-09-923-876-551
43	76.8	7.1	362	10	US-09-878-574-3077
44	75.8	7.0	244	10	US-09-923-876-204
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ALIGNMENTS

RESULT 1

US-09-770-445-348/c

; Sequence 348, Application US/09770445

; Patent No. US20020023281A1

; GENERAL INFORMATION:

; APPLICANT: Gorlach, Jorn

; APPLICANT: An, Yong-Qiang

; APPLICANT: Hamilton, Carol M.

; APPLICANT: Price, Jennifer L.

; APPLICANT: Raines, Tracy M.

; APPLICANT: Yu, Yang

; APPLICANT: Rameaka, Joshua G.

; APPLICANT: Page, Amy

; APPLICANT: Matthew, Abraham V.

; APPLICANT: Ledford, Brooke L.

; APPLICANT: Woessner, Jeffrey P.

; APPLICANT: Haas, William David

; APPLICANT: Garcia, Carlos A.

; APPLICANT: Krickler, Maja

; APPLICANT: Slader, Ted

; APPLICANT: Davis, Keith R.

; APPLICANT: Allen, Keith

; APPLICANT: Hoffman, Neil

; APPLICANT: Hubban, Patrick

; TITLE OF INVENTION: Expressed Sequences of Arabidopsis

; TITLE OF INVENTION: thaliana

; FILE REFERENCE: 2023US (PARA-012PRV)

; CURRENT APPLICATION NUMBER: US/09/770,445

; CURRENT FILING DATE: 2001-01-26

; PRIOR APPLICATION NUMBER: US 60/178,472

; PRIOR FILING DATE: 2000-01-27

; NUMBER OF SEQ ID NOS: 999

; SOFTWARE: Fast-Seq for Windows Version 4.0

; SEQ ID NO 348

; LENGTH: 945

; TYPE: DNA

; ORGANISM: Arabidopsis thaliana

US-09-770-445-348

Query Match 17.7%; Score 191.8; DB 10; Length 945;
Best Local Similarity 56.8%; Pred. No. 4.3e-44;
Matches 374; Conservative 0; Mismatches 282; Indels 3; Gaps 1;


```

; APPLICANT: Price, Jennifer L.
; APPLICANT: Raines, Tracy M.
; APPLICANT: Yu, Yang
; APPLICANT: Rameaka, Joshua G.
; APPLICANT: Page, Amy
; APPLICANT: Matthew, Abraham V.
; APPLICANT: Ledford, Brooke L.
; APPLICANT: Woessner, Jeffrey P.
; APPLICANT: Haas, William David
; APPLICANT: Garcia, Carlos A.
; APPLICANT: Krieker, Maja
; APPLICANT: Slader, Ted
; APPLICANT: Davis, Keith R.
; APPLICANT: Allen, Keith
; APPLICANT: Hoffman, Neil
; APPLICANT: Hurban, Patrick
; TITLE OF INVENTION: thaliana
; FILE REFERENCE: 2023US (PARA-012PRV)
; CURRENT FILING DATE: 2001-01-26
; PRIOR APPLICATION NUMBER: US 60/178,472
; NUMBER OF SEQ ID NOS: 999
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 836
; LENGTH: 794
; TYPE: DNA
; ORGANISM: Arabidopsis thaliana
; FEATURE:
; NAME/KEY: misc feature
; LOCATION: (1)..(794)
; OTHER INFORMATION: n = A,T,C or G
US-09-770-445-836

Query Match
Best Local Similarity 15.3%; Score 165.8; DB 10; Length 794;
Matches 351; Conservative 0; Mismatches 298; Indels 3; Gaps 1;

QY 59 AGGGGTGGTGTCTGTCTGACTTCTGGGTGAGCCGTTTCGGGCGAGCGGTGCGCATCGCGC 118
Db 791 ACAGGTGATCTCTTGATTTCTGGCCGAGCATGTTTGAATGAGCAGAGATGCTT 732

QY 119 TGGCGGAGAGGCGCTGCCCTACAGTACCGGAGGAGGACCTGATGGCGCGCAAGAGCG 178
Db 731 TAGAAGAGAAAAATGTCAAAATTCGATTACAGAGAACAAAGATCTGTGAA---CAAAAGCC 675

QY 179 ACCGCTCTCCGCGCCCAACCGGTGCTAAGAGATCCCGGTGCTCTCCACAGCGCC 238
Db 674 CGATTCTCTCGAGATGAATCCCGGTTTCAAGAAATACNNNNNTCATNCAATGGTN 615

QY 239 GTCCCGTCAACGAGTCCCTCATCTCCAGTACCTCGAGGAGGCGCTTCCCGAGCGC 298
Db 614 NTCCGGTATGTGATCACTCATCCAGTCAATATACATCGAGAGTTTGGCCTAGCAAA 555

QY 299 CGGCTGTGCTCCCTCGACCCCTACGCGCGCGAGGCGCGCTTCTGGGCGGACTACG 358
Db 554 CCCCACTCTCTCTCTGTGATCTTACCAAGAGCTCAGGCCAAATTTTGGGGAGATTCA 495

QY 359 TCACACAGAGGCTTAGACTGCGGCTCCGCTCTGGAAGCTCAAGGGCGAGCCGAGG 418
Db 494 TTGATAGAGAGGTTGATGCTTTCAGCGAGGTTGATTTTGGGAGGCTAAGGCGAAGAGCATG 435

QY 419 CGCAGGCGCGCGGAGATGCTGACATCTCTCAAGACCTTCGACGCGCGCTCGGSGACA 478
Db 434 AGCGGGGAGAGAGGATTCATCGAGTACTCAAGACACTAGAGTCTGAGCTTGGAGACA 375

QY 479 AGCCCTTCTTTCGGGCGGCAAGTTCGGGTTCGTCGACGCGCGCTTCGCGCCCTTCACCG 538
Db 374 AGACTTACTTTGGAGGTGAACAATTCGGTTATGTTGATATAGCTCTCATTTGGATTTACA 315

QY 539 CGTGGTTCCACGCTACGAGAGGTACGGCGAGTTTACGCTTCCGCGAGGTTGGCGCCCAAGA 598
Db 539 CGTGGTTCCACGCTACGAGAGGTACGGCGAGTTTACGCTTCCGCGAGGTTGGCGCCCAAGA 598

Db 314 GTTGGTTGAAGCGTATGAGAAAGTTTGGGAGTTTCAAGATTGAAGCCGAGTGTCCAAAAC 255
QY 599 TCGCCGCGTGGGCGCAAGCGCTCGCGGAGCGGCGGAGAGCGTTCGCAAGAGCGCTTCTACTCGC 658
Db 254 TGNATNCTTGGGGTAAAGAGTGTGTGAGAGAGAGAGTGTGGCTAAGTCTCTTCTCTGATT 195
QY 659 CGGACAAAGGTGTACGACTTCATCGGCTCTCTCAAGAAGAGTACGGCATCGA 710
Db 194 CGGAGAAGATCATTAAGTTTCGTTCTCTGAGCTAAGGAAAAAACTTCGGATCGA 143

RESULT 4
US-09-770-445-573/c
; Sequence 573, Application US/09770445
; Patent No. US20020023281A1
; GENERAL INFORMATION:
; APPLICANT: Gorlach, Jorn
; APPLICANT: An, Yong-Qiang
; APPLICANT: Hamilton, Carol M.
; APPLICANT: Price, Jennifer L.
; APPLICANT: Raines, Tracy M.
; APPLICANT: Yu, Yang
; APPLICANT: Rameaka, Joshua G.
; APPLICANT: Page, Amy
; APPLICANT: Matthew, Abraham V.
; APPLICANT: Ledford, Brooke L.
; APPLICANT: Woessner, Jeffrey P.
; APPLICANT: Haas, William David
; APPLICANT: Krieker, Maja
; APPLICANT: Slader, Ted
; APPLICANT: Davis, Keith R.
; APPLICANT: Allen, Keith
; APPLICANT: Hoffman, Neil
; APPLICANT: Hurban, Patrick
; TITLE OF INVENTION: Expressed Sequences of Arabidopsis
; FILE REFERENCE: 2023US (PARA-012PRV)
; CURRENT FILING DATE: 2001-01-26
; PRIOR APPLICATION NUMBER: US 60/178,472
; NUMBER OF SEQ ID NOS: 999
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 573
; LENGTH: 866
; TYPE: DNA
; ORGANISM: Arabidopsis thaliana
US-09-770-445-573

Query Match
Best Local Similarity 14.3%; Score 155.6; DB 10; Length 866;
Matches 348; Conservative 0; Mismatches 299; Indels 3; Gaps 1;

QY 65 TGGTGTCTGTGAGACTTCTGGGTGAGCCGTTTCGGGCGAGCGCTGCGCATCGCGCTGCGCG 124
Db 850 TGATTTCTTCTGATTACTGGCCAAAGCATGTTCGGGATGAGGACGAAGATGGCTTTGGCTG 791

QY 125 AGAAGGCGCTGCCCTACGAGTACCGGAGGAGGACCTGATGCGCGGCAAGAGGACCGCC 184
Db 790 AGAAGGAGTCAAGTATGAGTACAAGGAAACAGATCCATGGGT---TAAGACTCTCTTTAC 734

QY 185 TCCTCCGCGCCCAACCGGTGTCATAAGAAGATCCCGGTGCTCTCCACGAGCGCGTGGCG 244
Db 733 TATAGAGATGAACCGGATTCACAGAGATTCGGTTCTCATCCACACGGTAACCGCA 674

QY 245 TCAACGAGTCCCTCATCATCTCTCCAGTACTCGAGGAGGCGCTTCCCGGAGCGCGCGCTC 304
Db 673 TTTGTGAATCTCTTATTCAGCTTTGAGTACATGATGAGGTTTGGTCCGATGATCCCCAA 614

QY 305 TGTCTCCCTCCGAGCCCTACGCGCGCGGCGGCGGCGCTTCTTGGGCGGAGTACGTCGACA 364
Db 613 TCCTTCCCTCTGATCTCTACCAAGAGTCTCGAGCTAGATTTTGGGCTGAATTCATCGACA 554
```

QY 365 AGAGTGTACGACTGGGCTCCGCTCTGGAAGTCAAGGCGAGCGCGAGCCAGG 424
DB 553 AAAAGTTTACGACCCCATCATGGAAGGTATGGCAACAATGGCGGAAGAACATGCAGCAG 494
QY 425 CGCGCGCGAGATGCTGGACATCTCAAGACCTTCGACGGCGGCTCGGGGACAGCCCT 484
DB 493 TGAAGAGAAATTGTTGGAACATTTCAAGACACTTGAGACAGAGCTCGGAGACAAACCTT 434
QY 485 TCTTCGCGCGGACAAAGTTTCGGTTCGTCAGCGCGCTTCGCGCCCTTCACCGCTGCT 544
DB 433 ATTACGGTGGTGAAGTATTGGATACCTAGACATTCGATTAATGGGATACCTAGCTGCT 374
QY 545 TCACAGCTACGAGAGGTACGGAGTTCAGCTTCGCGGAGTGGCGGCCAACAGATCGCCG 604
DB 373 TCAAGGCCATGGAGAAATTTGGTGAATTCAGTATCGAAACAGAGTTTCTTATATTGACTA 314
QY 605 CGTGGGCGAAGCGCTCGCGGAGCGGAGAGCTCGCCAGAGACCTCTACTCGCCGACGA 664
DB 313 CGTGGACCAAGAGGTGTTGGAAGAGAGAGTGTGGTCAAGCAATTTGGCTGATCTTGATA 254
QY 665 AGGTGACGACTTCATCGGCTCTCAAGAGAAAGTACGCGCATCGAGTAG 714
DB 253 GGATCATGTAGTATGTTATGTCTCTGAGGAAGAAATTTGGAGCAGCGTAG 204

RESULT 5

US-09-923-876-1124
; Sequence 1124, Application US/09923876
; Patent No. US20020013958A1
; GENERAL INFORMATION:
; APPLICANT: Lalgudi, Raghunath V.
; APPLICANT: Kamigaki, Laura Y. (Ito)
; APPLICANT: Sherman, Bradley K.
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN SEEDLING
; FILE REFERENCE: PL-0012-1 CON
; CURRENT APPLICATION NUMBER: US/09/923,876
; CURRENT FILING DATE: 2001-08-06
; PRIOR APPLICATION NUMBER: 09/298,329
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 60/085,331
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332
; SOFTWARE: PERL Program
; SEQ ID NO 1124
; LENGTH: 273
; TYPE: DNA
; ORGANISM: Zea mays
; FEATURE:
; NAME/KEY: misc_feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 70015815H1
; NAME/KEY: unsure
; LOCATION: 171
; OTHER INFORMATION: a, t, c, g, or other
US-09-923-876-1124

Query Match 12.1%; Score 131.8; DB 10; Length 273;
Best Local Similarity 74.6%; Pred. No. 2.2e-27;
Matches 179; Conservative 0; Mismatches 58; Indels 3; Gaps 1;
QY 44 CAATGGCGGGGAGAGAGGGCTGTGCTGCTGGACCTCTGGGTGAGCCGCTTGGGAGC 103
DB 34 CAATGGCGGGAGACAACGACTGAAGTGTGCGCGGTGTGGACGAGCCGCTGTGATCC 93
QY 104 CGGTGCGCATCGCCTGGCGGAGAGGCTTCGCTACGAGTACGCGAGGAGACCTGA 163
DB 94 GGGTCCGATCGTCTCAACTGAAGGCGCTTGGCGTACGAGTACGTGGAGAGACCTCA 153
QY 164 TGGCGGGAAGAGCGACCGCTCTCCGCGCAACCGGTGCAATAAGAGATCCCGGTGC 223
DB 154 --GCAACAAGAGCGCTCTCTCTGGGTCCAAACCGGTGCAACAGAGCGTCCGCTGC 210
QY 224 TCCTCCAGGAGCGCGGTGGCGGTCAACAGAGTCCCTCATCATCTCCAGTACCTGAGAGG 283

DB 211 TCCTCCAGCGCGCGCCATATAAAGAGTCCCAAGTCACTCTGCAGTACATCGACGAG 270
RESULT 6
US-09-878-574-752
; Sequence 752, Application US/09878574
; Patent No. US20020110548A1
; GENERAL INFORMATION:
; APPLICANT: Byrum, Joseph R.
; APPLICANT: Thompson, Michael D.
; APPLICANT: Thompson, Michael J.
; TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated with
; FILE REFERENCE: 38-21(15401)B
; CURRENT APPLICATION NUMBER: US/09/878,574
; CURRENT FILING DATE: 2001-12-21
; PRIOR APPLICATION NUMBER: 09/333,535
; PRIOR FILING DATE: 1999-06-14
; NUMBER OF SEQ ID NOS: 15775
; SEQ ID NO 752
; LENGTH: 385
; TYPE: DNA
; ORGANISM: Glycine max
; OTHER INFORMATION: Clone ID: LIB3028-046-Q1-B1-H10
US-09-878-574-752

Query Match 11.1%; Score 120.6; DB 10; Length 385;
Best Local Similarity 63.3%; Pred. No. 3.6e-24;
Matches 202; Conservative 0; Mismatches 114; Indels 3; Gaps 1;
QY 59 AGGGGCTGTGCTGTGACTTCTGGGTGAGCCGTTGGGCGAGCGCGTGGCATCGCGC 118
DB 50 ATGAGGTGTTCTGTGTAGATTTCTGCCAAGTCCATTTGGGATGAGGGTTCAGGATTCAC 109
QY 119 TGGCGGAGAGGGCTGCCCTACGAGTACGCGAGGAGGACCTGATGGCGCGCAAGAGCG 178
DB 110 TTGCTGAAAGGGTATCAAAATATGATGACAAAGAGAGGACTTGAGG---AACAAGAGTC 166
QY 179 ACCGCTCTCCGCGCCACCGGTCATATAAGATCCCGGTGCTCTCTCCACGAGCGC 238
DB 167 CTCTTCTCTCCAAATGAACCGGTTCAAGAAGATTCGGTTCATCCACAAATGGCA 226
QY 239 GTGCGGTCAACGAGTCCCTCATCATCTCCAGTACCTGGAGGAGGCTTCCCGGAGCGCG 298
DB 227 AACCCATTTGTGAATCCCTCATTTGTTTCACTACATTCAGGACGTTTGAATGACAGAA 286
QY 299 CGGCTCTGCTCCCTCCGACCCCTACGCGCGCGCGAGGCGCTTCTGGGCGGACTAG 358
DB 287 ATCCCTTGTGCTCTCTGACCCCTTACGAGAGCTCAAGCTAGATTCTGGGCTGATTATG 346
QY 359 TCGACAAGAAGGTCTACGA 377
DB 347 TTGATAAGAAGATATATGA 365
RESULT 7
US-09-923-876-1137
; Sequence 1137, Application US/09923876
; Patent No. US20020013958A1
; GENERAL INFORMATION:
; APPLICANT: Lalgudi, Raghunath V.
; APPLICANT: Kamigaki, Laura Y. (Ito)
; APPLICANT: Sherman, Bradley K.
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN SEEDLING
; FILE REFERENCE: PL-0012-1 CON
; CURRENT APPLICATION NUMBER: US/09/923,876
; CURRENT FILING DATE: 2001-08-06
; PRIOR APPLICATION NUMBER: 09/298,329
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 60/085,331
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332

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; SOFTWARE: PERL Program
; SEQ ID NO 1137
; LENGTH: 267
; TYPE: DNA
; ORGANISM: Zea mays
; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 700158170H1
US-09-923-876-1137

Query Match      10.6%; Score 114.6; DB 10; Length 267;
Best Local Similarity 68.1%; Pred. No. 1.5e-22;
Matches 175; Conservative 0; Mismatches 79; Indels 3; Gaps 1;

QY 46 ATGGCGGCGGAGAGGGCTGGTCTGCTGGACTTCTGGGCTGAGCCCGTTCCGGGACGCG 105
Db 7 ATGTGCTCTCCGCGCGGTGAAGCTGATCGGCTTCTTCGGCAGCCGTAGCGGTTCCGC 66
QY 106 GTGGCATCGCGTGGCCGAGAGGGCTGCTTACGAGTACGCGGAGGAGACCTGATG 165
Db 67 GCGGAGCGCGCTGTGCTCTGAAGGGGTGCGGTACGAGCTGATCTCTGGAGGACCTGTT 126
QY 166 GCGGCAAGAGGACGCGCTCTCCGCGCAACCGGTGCATAGAGATCCCGTCTC 225
Db 127 GCGAGCAAGAGGAGCTCTCTGCTCCACCAACCCCGTGCAAGAAGGTGCCCGTGCTC 186
QY 226 CTCCA---CGACGGCGGTGCGGCTCAAGAGTCCCTCATCATCTCCAGTACCTGGAGGAG 282
Db 187 CTCACGGGACGCGCGGCCATCTCCGAGTCCCTCGTCTATCGCCGAGTACGTGCGAGG 246
QY 283 GCCTTCGCGACGGCGCC 299
Db 247 GCCTTCGACGGCGGCC 263

RESULT 8
US-09-050-010-8
; Sequence 8, Application US/09050010
; Patent No. US20010010903A1
; GENERAL INFORMATION:
; APPLICANT: Nagai, Keiichi
; APPLICANT: Irie, Ryotaro
; APPLICANT: Hiraoka, Susumu
; APPLICANT: Kasahara, Naoko
; TITLE OF INVENTION: METHOD FOR COMPARISON OF DNA BASE
; TITLE OF INVENTION: SEQUENCES
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: FAY, SHARPE, BEALL, FAGAN, MINNICH & MCKEE
; STREET: 104 East Hume Avenue
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: USA
; ZIP: 22301
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/050,010
; FILING DATE: 30-MAR-1998
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 09-079586
; FILING DATE: 31-MAR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Beall, Jr., Thomas E.
; REGISTRATION NUMBER: 22,410
; REFERENCE/DOCKET NUMBER: ASA-707
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-684-1120
; TELEFAX: 703-884-1167
```

```
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 249 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: both
; TOPOLOGY: linear
; MOLECULE TYPE: cDNA to mRNA
; ORIGINAL SOURCE:
; ORGANISM: Oryza sativa
US-09-050-010-8

Query Match      10.5%; Score 114.4; DB 10; Length 249;
Best Local Similarity 70.8%; Pred. No. 1.7e-22;
Matches 167; Conservative 0; Mismatches 66; Indels 3; Gaps 1;

QY 59 AGGGGCTGGTGTCTGGACTTCTGGGTGAGCCCGTTCCGGCAGCGGTGCGCATCGCGC 118
Db 17 ACAGCTGATGCTGTCTGGCAATGGCCAAAGCCCATTCGTACACAGGTTGAGCTCGCGC 76
QY 119 TGGCCGAGAGGGCTGCCCTACGAGTACGCGGAGGAGGACCTGTATGCGCGGCAAGAGCG 178
Db 77 TCGGCTCAAGGSCCTCAGTACGAGTACGTCAAGCAGGACCTC---GTCAACAAGAGCG 133
QY 179 ACCGCTCTCTCCGCGCAACCCCGTGCATAAGAAGATCCCGGTGCTCTCCACGAGGCG 238
Db 134 AGCTCTCTCTCGCTCCCAACCCCGTGCACAAGAAGATCCCGGTGCTCATCCACAAGGCA 193
QY 239 GTCCGCTCAACGAGTCCCTCATCATCTCCAGTACCTCGGAGGAGGCTTCCCGGAC 294
Db 194 AGCGGTCTGCGAGTCTGTCATCATCTGTCAGTACATCGACGAGGCTTCCCCGAC 249
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RESULT 9
US-09-923-876-1928
; Sequence 1928, Application US/09923876
; Patent No. US20020013958A1
; GENERAL INFORMATION:
; APPLICANT: Lalgudi, Raghunath V.
; APPLICANT: Kamigaki, Laura Y. (Ito)
; APPLICANT: Sherman, Bradley K.
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN SEEDLING
; FILE REFERENCE: PL-0012-1 CON
; CURRENT APPLICATION NUMBER: US/09/923,876
; CURRENT FILING DATE: 2001-08-06
; PRIOR APPLICATION NUMBER: 09/298,329
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 60/085,331
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332
; SOFTWARE: PERL Program
; SEQ ID NO 1928
; LENGTH: 257
; TYPE: DNA
; ORGANISM: Zea mays
; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 700159763H1
US-09-923-876-1928
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Query Match      10.3%; Score 111.4; DB 10; Length 257;
Best Local Similarity 72.0%; Pred. No. 1.2e-21;
Matches 188; Conservative 0; Mismatches 66; Indels 7; Gaps 3;

QY 69 GCTGCTGGACTTCTGGGTGAGCCCGTTCCGGCAGCGCGTTCGCGCATCGCGTGGCCGAGAA 128
Db 1 GCTGATCGGCTTCTTCGGCAGCCCGTACGCGTTCGCGGAGGCGCGCTGTGCGCTGAA 60
QY 129 GGGCTCGCCCTACGAGTACGCGGAGGAGGACCTGTATGGCGGCAAGAGGAGCGCGCTCT 188
Db 61 -AGCTGCGGTACGAGCTGATCTCTGAGGACCTGTTCGGAGCAAGAGGAGGAGCTCTGCT 119
QY 189 CCGCGCAACCCGGTGCATAGAAGATCCCGGTGCTCTCCA---CGACGGCGGTCCGT 245
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Db 120 CCACCACACCCCGTCACAAAGAGTGCCCGCTGCTCTCCACGCGGACGCGGCGCAT 179
QY 246 CACAGAGTCCCTCATCATCTCCAGTACCTCGAGGAGGCTTCCCGGACGCGCGCTCT 305
Db 180 CTCGAGTCCCTCATCTCCAGTACCTCGAGGAGGCTTCCCGGACGCGCGCTCT 236
QY 306 GCTCCCGCTCGACCCCTACGC 326
Db 237 GCTCCCGCGCGACCCCTACGC 257

RESULT 10
US-09-923-876-2599
; Sequence 2599, Application US/09923876
; Patent No. US20020013958A1
; GENERAL INFORMATION:
; APPLICANT: Lalgudi, Raghunath V.
; APPLICANT: Kamigaki, Laura Y. (Ito)
; APPLICANT: Sherman, Bradley K.
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN SEEDLING
; FILE REFERENCE: PL-0012-1 CON
; CURRENT FILING DATE: 2001-08-06
; PRIOR APPLICATION NUMBER: US/09/923,876
; PRIOR FILING DATE: 2001-08-06
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 09/298,329
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332
; SOFTWARE: PERL Program
; SEQ ID NO 2599
; LENGTH: 278
; TYPE: DNA
; ORGANISM: Zea mays
; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 700160869H1
; NAME/KEY: unsure
; LOCATION: 52, 262, 272, 277
; OTHER INFORMATION: a, t, c, g, or other
; US-09-923-876-2599

Query Match 10.2%; Score 111.2; DB 10; Length 278;
Best Local Similarity 68.6%; Pred. No. 1.4e-21;
Matches 168; Conservative 0; Mismatches 74; Indels 3; Gaps 1;

QY 126 GAAGGCGCTCCCTACGAGTACGCGGAGGAGCCTGATGCGCGGCAAGAGCGCGCT 185
Db 5 GAAGGCGCTCGAGTACGAGTACGCGAGGAGCCTGCGGAGGAGCCTGCGGAGGAGCCT 61
QY 186 CTTCCGCGCAACCCGCTGATAGAGATCCCGGTCTCTCCACGACGCGCGTCCGT 245
Db 62 GCTCCGCGCAACCCGCTGATAGAGATCCCGGTCTCTCCACGACGCGCGTCCGT 121
QY 246 CAACGAGTCCCTCATCATCTCCAGTACCTCGAGGAGGCGCTTCCCGACGCGCGCTCT 305
Db 122 CGCGAGTCCACCATCATCTCGAGTACATCGAGAGCTGGAAGCGGCTACCCCAT 181
QY 306 GCTCCCGCTCGACCCCTACGCGCGCGCGAGGCGCGCTTCTGGGCGGACTACGTCGACAA 365
Db 182 CATGCGGCGGACCCCTACGAGCGCGCGGAGGCTTCTGGGCGGAGGCTTCTGGGCGGAGA 241
QY 366 GAAGG 370
Db 242 CAATG 246

RESULT 11
US-09-923-876-2087
; Sequence 2087, Application US/09923876
; Patent No. US20020013958A1
; GENERAL INFORMATION:
; APPLICANT: Lalgudi, Raghunath V.
; APPLICANT: Kamigaki, Laura Y. (Ito)
```

```
; APPLICANT: Sherman, Bradley K.
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN SEEDLING
; FILE REFERENCE: PL-0012-1 CON
; CURRENT APPLICATION NUMBER: US/09/923,876
; CURRENT FILING DATE: 2001-08-06
; PRIOR APPLICATION NUMBER: 09/298,329
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 60/085,331
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332
; SOFTWARE: PERL Program
; SEQ ID NO 2087
; LENGTH: 260
; TYPE: DNA
; ORGANISM: Zea mays
; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 700160031H1
; NAME/KEY: unsure
; LOCATION: 247
; OTHER INFORMATION: a, t, c, g, or other
; US-09-923-876-2087

Query Match 10.2%; Score 110.4; DB 10; Length 260;
Best Local Similarity 70.7%; Pred. No. 2.3e-21;
Matches 176; Conservative 0; Mismatches 67; Indels 6; Gaps 2;

QY 87 GAGCCCGTTCGGGCGAGCGGTGCGATCGCGTGGCGGAGAGGGGCTCCCTACGAGTA 146
Db 3 GAGCCCGTTCGGTCCGCGTCTGATCGCCCTGAAGCTGAAGGGGCTCGAGTTCGAGTT 62
QY 147 CGCGGAGGAGGACCTGATGCGCGGCAAGAGCGACCGCTCTCCCGCGGCAACCCCGTGCA 206
Db 63 CGTGGAGGAGG---TGGTGGGCGAGGAGCGAGTGTCTGCTGAGTCCGAACCCCGTGCA 119
QY 207 TAAGAGATCCCGGTCTCTCCACGAGCGCGTGGCGTCAACGAGTCCCTCATCATCTCT 266
Db 120 CAAGAAGATCCCGGTCTCTCCACGAGCGAGTCTGCTCCCGCGGCGCGCTTCTTCTCCCGCGGAGCTCA 179
QY 267 CCAGTACCTGGAGGAGGCGC---TTCGCGGACGCGCGCGCTCTGCTCCCTCCGACCCCTA 323
Db 180 CCAGTACATCGAGAGTCTGCTCTCCCGCGGCGCGCTTCTTCTCCCGCGGAGCTCA 239
QY 324 CGCGCGCGC 332
Db 240 CGCCCGCNC 248

RESULT 12
US-09-923-876-1232
; Sequence 1232, Application US/09923876
; Patent No. US20020013958A1
; GENERAL INFORMATION:
; APPLICANT: Lalgudi, Raghunath V.
; APPLICANT: Kamigaki, Laura Y. (Ito)
; APPLICANT: Sherman, Bradley K.
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES DERIVED FROM CORN SEEDLING
; FILE REFERENCE: PL-0012-1 CON
; CURRENT FILING DATE: 2001-08-06
; PRIOR APPLICATION NUMBER: US/09/923,876
; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 60/085,331
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332
; SOFTWARE: PERL Program
; SEQ ID NO 1232
; LENGTH: 267
; TYPE: DNA
; ORGANISM: Zea mays
; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 700158349H1
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Matches	163;	Conservative	0;	Mismatches	71;	Indels	3;	Gaps	1;
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US-09-923-876-2873

DB 119 -TCGCCAACAAGAGCGCCACCTGTTCGCCACAACCCGGTGACCAAGAAGGTGCCCGTG 177

9
2
2

0
0
0
0
1
1
5
0
4
0
6
0
0
0
1

2
2

[illegible]

PRIOR APPLICATION NUMBER: 09/298

[illegible]

CURRENT FILING DATE: 2001-08-08
 PRIOR APPLICATION NUMBER: 09/298

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; PRIOR FILING DATE: 1999-04-21
; PRIOR APPLICATION NUMBER: 60/085,331
; PRIOR FILING DATE: 1998-05-05
; NUMBER OF SEQ ID NOS: 6332
; SOFTWARE: PERL Program
; SEQ ID NO 3412
; LENGTH: 268
; TYPE: DNA
; ORGANISM: Zea mays
; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: Incyte ID No. US20020013958A1 700162217H1
; NAME/KEY: unsure
; LOCATION: 17, 35, 65-87, 89, 162-163, 211, 230, 242, 263
; OTHER INFORMATION: a, t, c, g, or other
US-09-923-876-3412

Query Match          9.5%; Score 103.2; DB 10; Length 268;
Best Local Similarity 66.2%; Pred. No. 2.5e-19;
Matches 139; Conservative 0; Mismatches 68; Indels 3; Gaps 1;

QY 33 GCAACCGGAGCAATGCGGGCGAGAGGGGCTGGTGTGCTGGACTTCTGGGTGAGCCC 92
    ||| |
Db 59 GCAGCTNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNNN 118

QY 93 GTTCGGGCGAGCGGTGCGCATCGCTGGCCGAGAGGGGCTGCCCTACGAGTACGCGGA 152
    ||| |
Db 119 CTTGGGCGAGCGGTGCGCATCGCTGGCCGAGAGGGGCTGCCCTACGAGTACGCGGA 178

QY 153 GGAGGACCTGATGCGCGGAGAGCGACCGCTCCCTCCGGCGCAACCGGTGCAAGAA 212
    ||| |
Db 179 GCAGGACCTCCTG---GACAAATGGCGAGCTTCCNCCAGTCCACCCCATCCANAAGAA 235

QY 213 GATCCCGGTGCTCCTCCACGACGCGGTGC 242
    ||| |
Db 236 GATCCCGGTGCTCCTCCACGCGGCGAGNCC 265

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Search completed: June 27, 2003, 14:32:21
Job time : 1018 secs